

# **Commercial Update on Beneficiation Process Staged Turbulent Air Reactor (STAR)**

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## **ABSTRACT**

Ever increasing environmental regulations on coal-fired power plants has led to the development of several types of fly ash beneficiation processes in order to make a product suitable for utilization. All of these beneficiation processes attempt to modify particular characteristics of fly ash in order to improve technical performance in utilization. One of these beneficiation processes, STAR, has the potential to open new markets for beneficial use and create a better public perception of ash-based products.

The STAR – Staged Turbulent Air Reactor – process has been commercialized by The SEFA Group at the South Carolina Electric and Gas McMeekin Station and offers many new technical advantages not formerly available with other beneficiation processes. Also, even though The SEFA Group had many prior years of thermal beneficiation plant operating experience, the unique operating regime of the STAR and the specialized equipment used in the balance of plant, required SEFA personnel to institute new standard operating procedures for both STAR Plant operations and for SEFA's Environmental, Health and Safety Program.

A second STAR Plant is currently under construction in Southern Maryland and the lessons learned from commercial operation of the first STAR Plant were incorporated into the design of that STAR Plant. This update reviews the product quality enhancements that accrue from the use of the STAR technology as well as the environmental, health and safety benefits.

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